

## Method and Device for Disinfecting a Microtome Cryostat

### Claims

1. Method for disinfecting a microtome cryostat (1) comprising a defrosting phase (11), provision (13) of a vaporous disinfectant (2) for acting on the closed cryostat chamber (3) and an effective time (14) for the disinfectant (2), characterized in that, following the effective time (14), a temperature difference ( $\Delta T_1$ ,  $\Delta T_2$ ) is generated in the cryostat chamber (3) and the disinfectant (2) deposited in the colder region is discharged (18).
2. Method according to claim 1, characterized in that, after the effective time (14), the temperature ( $T_v$ ) of the refrigerator (4) of the cryostat (1) is reduced below 0°C in a cooling phase (16) until at least the majority of the disinfectant (2) has deposited on the refrigerator (4), the refrigerator (4) being subsequently thawed (17) to discharge (18) the disinfectant (2) from the cryostat chamber (3) using a collecting device (5).
3. Method according to claim 1 or 2, characterized in that the microtome (6) is heated after the effective time (14).
4. Method according to claim 3, characterized in that heating (15) clearly exceeds the surrounding temperature ( $T_u$ ) of the cryostat (1).
5. Method according to any one of the claims 1 through 4, characterized in that the vaporous disinfectant (2) is blown into the cryostat chamber (3).

6. Method according to any one of the claims 1 through 5, characterized in that the disinfectant (2) is evaporated using ultrasound.
7. Method according to any one of the claims 1 through 6, characterized in that the cryostat (1) is heated (12) after the defrosting phase (11) to at least the surrounding temperature ( $T_U$ ).
8. Method according to claim 7, characterized in that heating (12) is followed by a temperature balancing time (12').
9. Method according to claim 7 or 8, characterized in that heating (12) is effected using the heater (7) of the microtome (6).
10. Method according to any one of the claims 1 through 9, characterized in that the cutting waste is mechanically removed before providing (13) the vaporous disinfectant (2).
11. Method according to claim 10, characterized in that the cutting waste is suctioned.
12. Method according to any one of the claims 1 through 11, characterized in that vaporous disinfectant (2) is suctioned into a suction system (26) to also disinfect same.
13. Device for disinfecting a microtome cryostat (1) comprising a microtome (6) in a cryostat chamber (3) and a refrigerator (4) and a means (8) for providing (13) a vaporous disinfectant (2), and a control (9) which is designed to cause said provision (13) and an effective time (14) after a defrosting phase (11), characterized in that the control (9) is moreover designed to generate a temperature

difference ( $\Delta T_1$ ,  $\Delta T_2$ ) in the cryostat chamber (3) after the effective time (14) through heating and/or cooling and a collecting device (5) is arranged in the colder region to remove deposited disinfectant (2).

14. Device according to claim 13, characterized in that the control (9) is designed to reduce the temperature ( $T_v$ ) of the refrigerator (4) of the cryostat (1) in a cooling phase (16) below 0°C after the effective time (14) until at least the majority of the disinfectant (2) has deposited on the refrigerator (4), the refrigerator (4) being subsequently thawed (17) to discharge the disinfectant (2) from the cryostat chamber (3) using the collecting device (5).
15. Device according to claim 13 or 14, characterized in that the microtome (6) has a heater (7) and the control is designed to heat (15) the microtome (6) after the effective time (14).
16. Device according to claim 13, 14, or 15, characterized in that the refrigerator (4) comprises a heater (10), wherein the control (9) is designed to switch on the heater (10) to accelerate thawing (17).
17. Device according to any one of the claims 13 through 16, characterized in that the means (8) for providing (13) a vaporous disinfectant (2) comprises a blower (20) for introducing the disinfectant (2) into the cryostat chamber (3).
18. Device according to any one of the claims 13 through 17, characterized in that the means (8) for evaporating the disinfectant (2) is provided with an ultrasound actuator (21).

19. Device according to any one of the claims 13 through 18, characterized in that the means (8) is supplied with disinfectant (2) using a supply container (22).
20. Device according to claim 19, characterized in that the liquid level (24) of the disinfectant (2) in the means (8) can be controlled using a valve (23).
21. Device according to any one of the claims 13 through 20, characterized in that the collecting device (5) discharges the liquid dripping from the refrigerator (4) out of the cryostat chamber (3) using an outlet (25).